



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

AUG 1 4 1990

4WD-NSRB

11 7 0028

Mr. Mary Jane Norville  
King & Spalding  
2500 Trust Company Tower  
Atlanta, GA 30303

Re: Comments on Draft Phase II RI/FS Work Plan  
for the Medley Farms Superfund Site

Dear Ms. Norville:

Copies of the above referenced document were received on July 11 and 12, 1990 for review. Copies of this document were disseminated to various programs within EPA, the South Carolina Department of Health and Environmental Control (SCDHEC), and Versar, EPA's oversight contractor. Below are the comments generated as a result of this review. As of this date, the Agency has not received any comments from SCDHEC. Upon receipt of comments from SCDHEC, I will forward them to the PRPs.

To insure that there is no misunderstanding as to the Agency's expectation from this Phase II effort, it is our understanding that Phase II will include all work to select a remedial alternative. In your letter of July 11, 1990, you stated "Proceeding with additional work now will in no way impact the overall schedule for remediation of the Site." The Agency interprets this to mean that any treatability studies that need to be done will be done as part of the RI/FS process and not part of the Remedial Design (RD) process. In other words, the RD activities will consist only of designing the selected remedy. This approach, conducting treatability studies as part of the RI/FS phase instead of the RD/RA phase, is consistent with EPA's RI/FS guidance.

1. Page 1, Section 1.0 INTRODUCTION: Include in this section language that expresses the idea that Phase II work will also provide the necessary data to design the selected remedy (i.e., there will be no need for treatability studies as part of the RD phase).
2. Page 4, last line in last bullet: "Phase IV" should read "Phase IB".
3. Page 8, Section 1.4 PHASE II RI OBJECTIVES: Any and all anticipated treatability studies need to be included as part of Phase II objectives.

4. Page 8, Section 1.4 PHASE II RI OBJECTIVES, first paragraph, fourth line down: Typo.
5. Page 8, Section 1.4 PHASE II RI OBJECTIVES, second paragraph: Typo.
6. Page 9, Section 1.4 PHASE II RI OBJECTIVES: Inform EPA with specific completion date for Phase II field work so that the schedule in this work plan can be revised accordingly. Although this may not be an objective in the traditional sense, it is important to the Agency that Phase II is completed as quickly as possible and that the resulting documents, the Remedial Investigation report, the Risk Assessment, and the Feasibility Study, be submitted on schedule.
7. Page 10, Section 2.1 DATA QUALITY OBJECTIVES: This section discusses the use of Level III and IV data quality, but not Level II. This in itself means that no field screening (i.e., use of HNu, OVA, etc.) will be conducted during Phase II field work. If this is not the case, then the level of data quality needs to be discussed in this section.
8. Page 10, Section 2.2 SUMMARY OF PROPOSED FIELD ACTIVITIES AND CHEMICAL ANALYSES, third sentence: It is questionable if the Hydropunch<sup>TM</sup> will be able to collect groundwater samples from discrete intervals in the fractured bedrock. This sentence needs to be clarified.
9. Page 11, Table 2.1, first bullet: The term "near surface soil samples" is confusing. If we are talking about surface soil samples (i.e., 0-12 inches in depth), then use the term "surface soils samples".
10. Page 11, Table 2.1: Include Treatability Studies if appropriate.
11. Page 12, Table 2.2: Refer to comment number 9.
12. Page 12, Table 2.2: Please be advised that EPA will split, at a minimum, one surface soil sample and two groundwater samples as part of Phase II oversight activities.
13. Page 12, Table 2.2: It is noted in this table that inorganic groundwater samples will be filtered. EPA does not recognize filtered groundwater samples. At some NPL sites the PRPs have elected to collect and analyze both filtered and unfiltered samples for the purpose of comparison.
14. Page 12, Table 2.2: If field screening methods are to be used during field activities, these methods should be identified in Table 2.2 as well as in Section 2.1. Refer to comment number 7.
15. Page 13, Section 2.3.1 Soils Analyses, first paragraph, first line: Refer to comment number 9.

16. Page 13, Section 2.3.1 Soils Analyses, second paragraph: The phrase "significant levels" needs to be better defined. What is meant by "significant levels", above mandatory clean up levels?
17. Page 15, Section 2.3.2 Ground Water Analyses, first paragraph, first sentence: Please refer to comment 47 from EPA's comments on the draft RI report. This comment read "Page 80, Table 5.7: The groundwater results of several inorganics were left out of this table for SW1 (the reportedly background well. They are As, Cd, Co, Cu, Sb, and Vn. The detected arsenic (65.6 ug/l and chromium (97.8 ug/l) levels exceed the current MCL for drinking water (both 50 ug/l)". This sentence needs to be revised.
18. Page 15, Section 2.3.2 Ground Water Analyses, first paragraph, sixth line down: Data from filtered groundwater samples will not be accepted. Filtered samples can be collected if Sirrine wants to do an internal comparison, but only data from unfiltered samples will be accepted. Refer to comment number 13.
19. Pages 17 and 18, Tables 2.4 and 2.5: It is more appropriate to include the data from soil boring SB1 (background) in Table 2.4 than in Table 2.5. The Agency predominately compares site related data to site related background data (i.e., soil boring SB1).
20. Page 19, Section 2.4 FIELD PROCEDURES, DOCUMENTATION AND QA/QC REQUIREMENTS: The exact decontamination procedures to be used should be restated here. The POP (January 1989) was never changed to reflect the use of organic-free water after the solvent rinse. If no organic-free water is available, the equipment should be allowed to air dry as long as possible. Also, steam cleaning only for drilling equipment and well materials is not as acceptable practice for decontamination. This was pointed out several times in comments made on the POP.
21. Page 19, Section 2.4 FIELD PROCEDURES, DOCUMENTATION AND QA/QC REQUIREMENTS: The Phase II RI/FS Work Plan needs to include a statement that states activities will be in accordance with EPA, Region IV Standard Operating Procedures, or approved modifications to these procedures.
22. Page 20, Table 2.6: The concentration levels for arsenic, barium, and chromium in the background monitor well, SW1, are above the Maximum Concentration Limits (MCLs). It is understood that no inorganic (metals) contamination has been detected in the source areas (disposal areas), and additional field work is proposed upgradient of the disposal area, but no mention is made relative to sampling the Sprouse well which is also upgradient. Although the Sprouse well is considered upgradient of the contaminant plume, the detections in the background monitor well warrants sampling of the Sprouse well. The Sprouse well should be sampled and analyzed for volatile organic compounds (VOCs) and metals.

23. Page 20, Table 2.6: Strong consideration should be given to resampling the background well SW-1 as the levels of metals listed on this table are much than what would be expected for background levels.
24. Page 23, Section 3.2 SURFACE SOIL SAMPLING IN THE FORMER DISPOSAL AREA: All proposed surface soil sampling locations are over 100 feet apart. A grid system, based on 100 foot nodes, may be more appropriate. Additional surface soil sampling locations are necessary to adequately characterize the former waste disposal area surface soils. This additional surface soil data will better support the Risk Assessment.
25. Page 23, Section 3.2, SURFACE SOIL SAMPLING IN THE FORMER DISPOSAL AREA, first paragraph, last sentence: Analyses will need to include TAL until such time that the Agency concurs that metals are not a site related contaminant.
26. Page 24, Section 4.0 GROUND-WATER SAMPLING AND HYDRAULIC EVALUATIONS: A bedrock well should be installed near SW-3 and a shallow well should probably be installed approximately halfway between SW-3 and SW-4. The bedrock well proposed near SW-4 appears appropriate.
27. Page 24, Section 4.0 GROUND-WATER SAMPLING AND HYDRAULIC EVALUATIONS: This section does not clearly state what type of drilling method will be used to install the permanent monitor wells.
28. Page 24, Section 4.2 SAPROLITE AQUIFER: Should the Hydropunch<sup>TM</sup> method fail to meet the objectives of this Work Plan, what alternative is available to provide the necessary data to help locate the monitor wells?
28. Page 24, Section 4.2 SAPROLITE AQUIFER, second sentence: This sentence is confusing. Why is the use of hollow stem augers necessary with the Hydropunch<sup>TM</sup>? This point needs to be clarified.
29. Page 25, 4.2 SAPROLITE AQUIFER, first paragraph: Is it feasible to leave the slotted PVC pipe in the Hydropunch<sup>TM</sup> boreholes until such time that all water level readings can be taken, across the site, in a short time frame? If groundwater levels are collected over a period of time, there will undoubtedly be some question as to the usefulness on this groundwater level data.
30. Page 25, 4.2 SAPROLITE AQUIFER, first paragraph: The statement is made that PVC casing will be left standing in the borehole at each Hydropunch<sup>TM</sup> location, and after water level measurements are made the hole will be abandoned with grout. Consideration should be given to converting these boreholes to permanent piezometers. Very little additional expense and effort will be necessary to convert the borings to piezometers, and considering the complex hydraulics of Piedmont aquifers the site should have as many aquifer water level monitoring locations as possible.

31. Page 25, 4.3 BEDROCK AQUIFER, second paragraph: Why terminate the coring at a depth of 50 feet? Why not core to a depth of 100 feet below the bottom of the well casing? A defensible rationale needs to be incorporated into this paragraph with respect to the depth of the installation of monitor well BW 105.
32. Page 25, 4.3 BEDROCK AQUIFER: What is the rationale for not using geophysical logging techniques in assisting the delineation of discrete fracture zones in the bedrock. Geophysical logging would be especially helpful if core recovery is poor.
33. Page 27, 4.3 BEDROCK AQUIFER, top of page: It is stated "...shipped to the CLP laboratory and held for potential CLP analyses." Sample holding times must be considered.
34. Page 27, 4.3 BEDROCK AQUIFER, top of page: A working, useable definition of the phrase "significant decrease in residual chemical concentrations" must be provided.
35. Page 27, 4.4 RATIONALE FOR PROPOSED GROUND-WATER SAMPLING LOCATIONS, first paragraph, last sentence: The criteria that this decision (i.e., install the bedrock well at the primary location or alternate location) needs to be identified.
36. Page 27, 4.4 RATIONALE FOR PROPOSED GROUND-WATER SAMPLING LOCATIONS, last paragraph: It is stated that no monitor wells are proposed northwest of monitor well SW3 due to low contaminant concentrations detected in well SW3, and extremely difficult access for locating a new well. It is important to install a monitor well north of SW3 because groundwater samples from SW3 had concentrations of several contaminants that exceeded MCLs. The following table lists the concentration of contaminants that exceeded MCLs in Phase I.:

COMPOUND	CONCENTRATION (ug/l)	MCL (ug/l)
1,1-Dichloroethene	8.0	7.0
1,2-Dichloroethene	9.0	5.0
Trichloroethene	140.0	5.0
Tetrachloroethene	190.0	5.0 (pMCL)

(Note: The data reported in this table is from Phase IA sampling; trichloroethene and tetrachloroethene exceeded MCLs in Phase IB sampling.)

Monitor well SW3 is the northeastern-most well on this side of the site, therefore, the northeastern extent of the plume has not been delineated.

37. Page 28, 4.4 RATIONALE FOR PROPOSED GROUND-WATER SAMPLING LOCATIONS, top of page: If the assumption is that groundwater is discharging to this tributary, why not collect surface water/sediment samples at locations SL3 and SL4? The water flowing in this stream is slow. Therefore, it is quite conceivable that if contaminants (i.e., volatiles) are entering this surface stream in this vicinity, which is closest

surface water to the site, that these volatiles are more likely than not volatilizing out of the water column prior to reaching the the previous surface water sampling point, RW-2. These samples should at a minimum be analyzed for volatile compounds.

38. Page 28, 4.4 RATIONALE FOR PROPOSED GROUND-WATER SAMPLING LOCATIONS, last bullet and Figure 4.1: There are three (3) statements associated with location HP 103 on Figure 4.1. They are:

- If VOC's detected, no wells
- If no saturated saprolite, install bedrock well
- If VOC's not detected [move well location closer to disposal area as indicated by arrow].

What is the rationale for no wells for the first bullet? If contaminants are detected, then what is being proposed? Delete monitor wells SW103/BW103 and rely on monitor wells SW106/BW106 to define the extent of the plume?

39. Page 29 and Figure 4.1: Rationale is provided that the proposed well group 104 (southwest of existing monitor well SW4) will help evaluate the southwestward movement of groundwater and groundwater contamination. However, on Figure 4.1 the scenario states that if no contamination is detected in the Hydropunch<sup>TM</sup> location HP104, then no permanent monitor wells will be installed in this area. Permanent monitor wells should be installed at locations west and southwest of SW4 for the same reasons described above for SW3; concentrations of 1,1-Dichloroethene, 1,1-Dichloroethane, and 1,1,1-Trichloroethane exceed MCLs in groundwater from SW4, and it is the well on the northwestern-most side of the plume. As a result, the northwestern extent of the plume has not been delineated, and both saprolite and bedrock monitor wells are necessary.
40. Page 29 and Figure 4.1: The proposed monitor well pair SW107/BW107 should be moved approximately 200 feet northwestward, up the ravine, to be located near the intersection with the northeast/southwest trending ravines. This rationale is consistent with the rationale for the location of well pair 106; placement of wells at intersections of ravines because the ravines possibly represent fracture systems in the underlying bedrock which act as preferred flow routes for groundwater and contaminant migration.

After completion of Phase II site investigation, groundwater clean up levels will be established for the contaminants detected in the aquifer beneath the site. The aquifer is a current source of drinking water, therefore, it is classified as a Class IIA aquifer under the EPA Ground-Water Protection strategy. As a Class IIA aquifer, the remediation standards will be MCLs, Proposed MCLs (pMCLs), MCL goals (MCLGs), and/or criteria based upon protection of human health via ingestion of drinking water as approved by an EPA toxicologist.

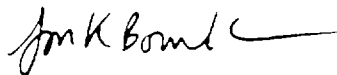
41. Page 27, Section 4.4: What is the rationale for not sampling the Sprouse well? Refer to comment number 22.

42. Page 30, top of the page: Refer to comment number 22.

The comments above need to be addressed to the satisfaction of the Agency in order for the Agency to approve the Phase II RI/FS Work Plan. As can be gleaned from the above comments, there are several issues that may need to be discussed in length. The first being extending the groundwater investigating in a northeastwardly direction. Another issue is the type of analyses to be ran on the surface soil samples. If the PRPs and SEC would like to meet with the Agency to discuss these comments, the meeting should occur a week following the receipt of these comments.

If you have any questions, please contact me at 347-7791.

Sincerely yours,



Jon K. Bornholm  
Remedial Project Manager

cc: Jim Chamness, SIRRINE  
Bernie Hayes, EPA  
Keith Lindler, SCDHEC  
David Schaer, Versar  
Jonathan Vail, EPA